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EVALUATION OF ERIC, JUNE 1968.

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THE PURPOSE OF THIS PAPER WAS TO EXAMINE THE DEGREE TO WHICH THE ERIC PROGRAM, AFTER TWO YEARS OF OPERATIONAL EXPERIENCE, WAS REACHING THE OBJECTIVES SET FORTH FOR IT AT ITS INCEPTION IN 1965. DATA FROM VARIOUS SOURCES INDICATE THAT ERIC HAS BEEN SUCCESSFUL IN ATTAINING ITS FOUR MAJOR OBJECTIVES--(1) TO MAKE SIGNIFICANT, BUT PREVIOUSLY UNAVAILABLE R/D REPORTS EASILY AND READILY AVAILABLE TO EDUCATORS, (2) TO INTERPRET AND SUMMARIZE RESULTS IN WAYS THAT EDUCATIONAL PRACTITIONERS AND DECISION-MAKERS CAN USE THEM, (3) TO HELP STRENGTHEN EXISTING COMMUNICATION CHANNELS IN EDUCATION, AND (4) TO BECOME AN IMPORTANT BASE FOR DEVELOPING A NATIONAL EDUCATION INFORMATION NETWORK. ERIC IS A VIGOROUS PROGRAM, EVEN THOUGH IN ITS INFANCY. SALES DATA FOR RIE AND FOR DOCUMENTS FROM EDRS INDICATE THAT THE RESPONSE FROM THE EDUCATIONAL COMMUNITY IS ONLY AT THE TAKE-OFF POINT. ADDITIONAL DATA ARE NEEDED ON THE COST-EFFECTIVENESS OR TRADE-OFF VALUES OF DIFFERENT CLEARINGHOUSE ACTIVITIES. THIS AVENUE IS BEING PURSUED AND MORE REFINED EVALUATION DATA ARE EXPECTED TO BE AVAILABLE FOR ERIC OPERATIONS THROUGH FISCAL YEAR 1968. APPENDIXES GIVE DATA ON RIE SUBSCRIBERS AND CLEARINGHOUSE PUBLICATIONS. ED 020 450 IS A RELATED DOCUMENT, AN OUTLINE OF THE HISTORY OF ERIC AND SOME OF ITS MAJOR ACCOMPLISHMENTS TO DATE. (AUTHOR/JB)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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EVALUATION OF ERIC
JUNE, 1968

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October, 1968

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SUMMARY

This summary contains the important inferences drawn from data used to assess the functioning of ERIC (Educational Resources Information Center) in its first two years of development. The data supporting the inference also are presented in the 47 pages and 17 tables and figures that comprise the report.

The first and most basic inference is that the decentralized ERIC system, based on the operation of topic- or discipline-centered clearinghouses, has not only functioned well, but has benefited greatly from the vitality provided by the many linkages among professional staff in the clearinghouses and their colleagues with whom they share common professional interests. Great progress has been made toward reaching the four major objectives set for ERIC at its inception:

- to make significant, but previously unavailable R&D reports easily and readily available to educators
- to interpret and summarize results in ways that educational practitioners and decision-makers can use them
- to help strengthen existing educational communication channels for putting R&D results to use
- to become an important base for developing a national education information network.

The second general inference is that ERIC is seen as a resource by persons in all levels of education, in many subject fields, and with greatly different responsibilities. ERIC is not a resource for mainly university-based research and development specialists. Although institutions of higher education are the single largest set of purchasers of Research in Education, ERIC's monthly announcement bulletin, and of documents from the ERIC Document Reproduction Service, schools and State education departments are running as a close second. Moreover, rates of use are increasing more rapidly among local and State educational agencies than among colleges and universities. Also, representatives of school systems are making far greater use of clearinghouse services and much more frequently ask for literature searches than do university-based educational researchers. In short, ERIC is serving educators, practitioners and decision-makers as well as educational research and development specialists.

Third, the ERIC program has maintained strong growth and has produced a variety of products and services. Indicators of this growth and diversity include:

- Vigorous collection of documents from a variety of sources--acquisitions exceed 20,000 per year.

- Careful screening of documents for quality and significance to education--about half are selected for national announcement and dissemination.

- Growth of the ERIC document collection--from less than 1,800 documents in 1966 to over 12,000 by June, 1968.

- Monthly publication of an expanding general document announcement bulletin, Research in Education--from 67 reports in the first issue to nearly 800 in June, 1968.

- Release of six special collections of documents on topics such as education of the disadvantaged, a ten-year collection of OE research reports, pacesetters in innovation (Title III, ESEA), and manpower research.

- Production of an increasing number of bibliographies and research reviews produced by the clearinghouses. By June, 1968, over 160 major bibliographies and over 50 major reviews had been produced and disseminated. In addition, most clearinghouses have produced a score or more of short, timely bibliographies or reviews on specific topics in response to requests for information.

- Preparation of monthly columns that are published in professional journals. Such columns, containing news items, bibliographies, critical reviews, and information about ERIC products and services, appear in 30 journals and reach over 350,000 educators.

Fourth, even without much promotion or marketing, response by the educational community to ERIC has been strong and positive. Indicators of increasing use of ERIC's products and services are:

- Increases in the number of subscribers to Research in Education, from about 200 in January, 1967 to over 4,500 in June, 1968.

- Increases in sales and distribution of ERIC documents: while less than 500,000 microfiche were distributed in 1966 and nearly 1.2 million in 1967, in the first six months of 1968, over 1.5 million microfiche were distributed. Hardcopy sales increased from about 2,000 titles in 1966 to 6,000 in 1967. In the first half of 1968, hardcopy sales (5,700 titles) almost equalled all of last year.

- Increases in the number of standing orders for purchase of all documents made available in each issue of Research in Education--there were 122 standing orders as of June, 1968.

- On-site use of clearinghouse services by visiting scholars and representatives of local and State educational agencies. Visits to clearinghouses vary from a few hours, to days, weeks, and, in several cases to an entire quarter for researchers on their sabbatical year.

- Continued requests by educators for assistance in locating information on specific problems. In the first half of 1968, over 11,600 queries were answered by clearinghouses, in addition to the nearly 2,000 answered through central ERIC. Well over half came from educators in local schools or State education departments; only 12% were from researchers. The rest came from a variety of sources.

Finally, users also have reported difficulty in using ERIC, particularly in their first encounter with the system. Problems reported by users are reviewed, along with steps that are being taken to overcome difficulties associated with using ERIC's services. Also, some next steps in development of ERIC, several of which have been called for by users, are described.

INTRODUCTION

How well, in its first two years of operation, has ERIC begun to meet the objectives set forth at its inception? Data are presented in this paper as a preliminary answer to this question.[1/] Additional data on the operation and impact of the ERIC program are being obtained regularly and will be incorporated in subsequent papers. The present discussion covers the period from the beginning of ERIC in 1965 through June, 1968.

Objectives of ERIC

The initial objectives of the ERIC program were:

- To make unavailable or hard-to-find, but significant research and research-related reports, papers, and other documents easily available to the educational community.

- To prepare interpretative summaries of information from many reports for use by educational decision-makers and practitioners.

1/ For description of the history of ERIC and some of its major accomplishments to date, see: ERIC: Development Through June, 1968. ED 020-450 . ERIC stands for the Educational Resources Information Center, a national information system being developed by the Office of Education through the Bureau of Research

- To strengthen existing educational research dissemination channels.
- To provide a base for developing a national education information network that can effectively link knowledge producers and users in education.

Decentralized operation

The basic strategy for achieving these objectives has rested upon the operation of decentralized clearinghouses, each of which has responsibility for developing information services for a specific field in education. There were several important reasons for selecting a decentralized base for the ERIC system. One was the decentralized, locally autonomous, pluralistic nature of education itself in the United States. It seemed appropriate, even necessary, therefore, that ERIC be designed to fit into the multi-level structure of education and to contribute to the strengthening of existing communication channels, rather than be developed as an independent Federal enterprise, as are most other Federal information systems. A second reason was more pragmatic: where and how could the numbers of well-qualified subject-matter specialists be found to operate a national information system? There was little chance that nationally prominent experts in many different fields would be attracted to Federal service and retained, even if ever hired in the first place. So, if the experts couldn't come to the Office of Education, the Office of Education could go to them in the form of contracts to operate clearinghouses. By this means, high-level talent could be recruited immediately for information processing work. Further, because the professional staff of clearinghouses maintain their previous teaching, research, consulting or other roles, they remain active and sharp in their basic fields. As a result, they remain more competent in their information processing roles as well. Finally, by relying upon professional staff who are well known in their fields, the ERIC program was expected to have a fast start in acquiring documents and for establishing dissemination routes to specialized audiences.

As the following data show, the decentralized system thus far, has worked out very well. Well-qualified personnel in many specialized subject fields have assumed information processing roles through the establishment of clearinghouses. These individuals are well-grounded in their fields and hold strategic positions within their professional communities. In-service training programs, organized through Central ERIC, have provided subject specialists with training in the information sciences. Because of their prominence in their professional fields, professional staff of the clearinghouses have been able to establish networks for acquiring documents and to arrange for a variety of dissemination programs. Also, through their advisory boards, groups composed of research and educational personnel from State and local agencies, professional organizations, and universities, close working relationships have been established among clearinghouses and their educational clientele.

These relationships also permit continous feedback about the strengths and limitations of the ERIC program from key segments of the educational community.

Problems of overlap in scope of interest among clearinghouses have been worked out as these arise, and management techniques have been developed to prevent duplicate processing of the same documents by different clearinghouses. With increased experience and in-service training provided by Central ERIC, staff of clearinghouses have become more efficient in their various activities. Further, through the efforts of Central ERIC, more efficient interfaces have been established among the clearinghouses and the centralized contractors, North American Rockwell Corporation, which provides computer and technical capabilities, and the National Cash Register Company, which operates the ERIC Document Reproduction Service.

Overall, based on daily observations, site visits, and information from quarterly reports submitted by clearinghouses and other information secured through several studies, the decentralized system has demonstrated its value and, in the opinion of the Central ERIC staff, remains a solid basis for integrating the specialized roles and staffs required for operation of an information system to serve American education. In fact, the system has worked so well that other agencies within the Federal Government and governments of other countries have been studying ERIC as a model for developing comparable activities to serve their clientele.

The remainder of this report is organized around five sections: a separate section is devoted to presentation of information on how well ERIC is reaching each of the four objectives and a final section is devoted to an overall view of the impact ERIC has made upon the educational community.

OBJECTIVE ONE: MAKING REPORTS AVAILABLE

Making reports available includes a series of interrelated activities: first, documents must be identified and then physically acquired; second, decisions have to be made as to their quality, significance, or relevance to education; third, documents selected for dissemination are then processed, and this includes recording identifying information about the document (cataloging it) and preparing an abstract of the document, assigning index terms to it, and then transferring all of this information to computer storage; fourth, the information about the document (its resume--cataloging information, abstract and indexing terms) must be announced through a bulletin such as Research in Education; and fifth, the entire document itself has to be reproduced for delivery upon demand. Information about the acquisition, selection, announcement, and sales or distribution of documents are organized to show how ERIC is meeting its first objective: to make significant but previously unavailable documents easily available to the educational community.

Acquisition of documents

Prior to the development of ERIC, over 1,500 reports representing over 75 million dollars of R&D investment had been received by the Office of Education. Unfortunately, however, copies of most of these reports were extremely difficult to obtain, if not completely unavailable, to anyone who wanted them. Copies received were made available as long as they lasted and others were lost or discarded in office moves. The same was true of many important papers presented at conferences, reports released by university research centers, foundations, professional organizations, State and local educational agencies, and other educational groups. Much current significant and useful information, of course, circulated among the "in-group" or "invisible colleges" of specialists, but much of this information was lost or never available to large segments of the educational community, and precious little research information filtered out from researchers to educators, decision-makers and practitioners.

Therefore, one of the first tasks of the ERIC program was to arrange for systematic acquisition, screening, processing, announcement, and dissemination of unpublished but significant educational research and research-related reports. As any librarian knows, acquisition of unpublished documents is a difficult task. The strategy developed by ERIC to solve the problem consisted of a three-part plan:

- Establishing clearinghouses where there already were impressive collections of documents or where groups demonstrated their potential for acquiring appropriate reports in a given field or topical area of education.

- Developing a centralized acquisition effort through Central ERIC for collecting documents from Government agencies and other large producers of educational reports, such as NEA or State educational agencies.

- Encouraging clearinghouses to develop complementary networks for acquiring documents from the many diverse but smaller scale producers of reports, such as individuals at colleges and universities, research councils, and other groups with which the clearinghouse directors have recurring relationships.

How successful has the acquisition strategy been? The clearest answer can be found in looking at the growth in the size of the ERIC collection (shown in Figure 1). The ERIC collection began in 1965 with the Special Collection on the Disadvantaged (1,746 documents), but by June, 1968 has grown to 12,324 documents.

What are the sources of the 12,000 plus documents? They split almost evenly into two categories: about half came from special collections organized by Central ERIC (see Table 1 for a list); the other half came from those announced through Research in Education (RIE).

Figure 1. Growth in Size of ERIC Document Collection

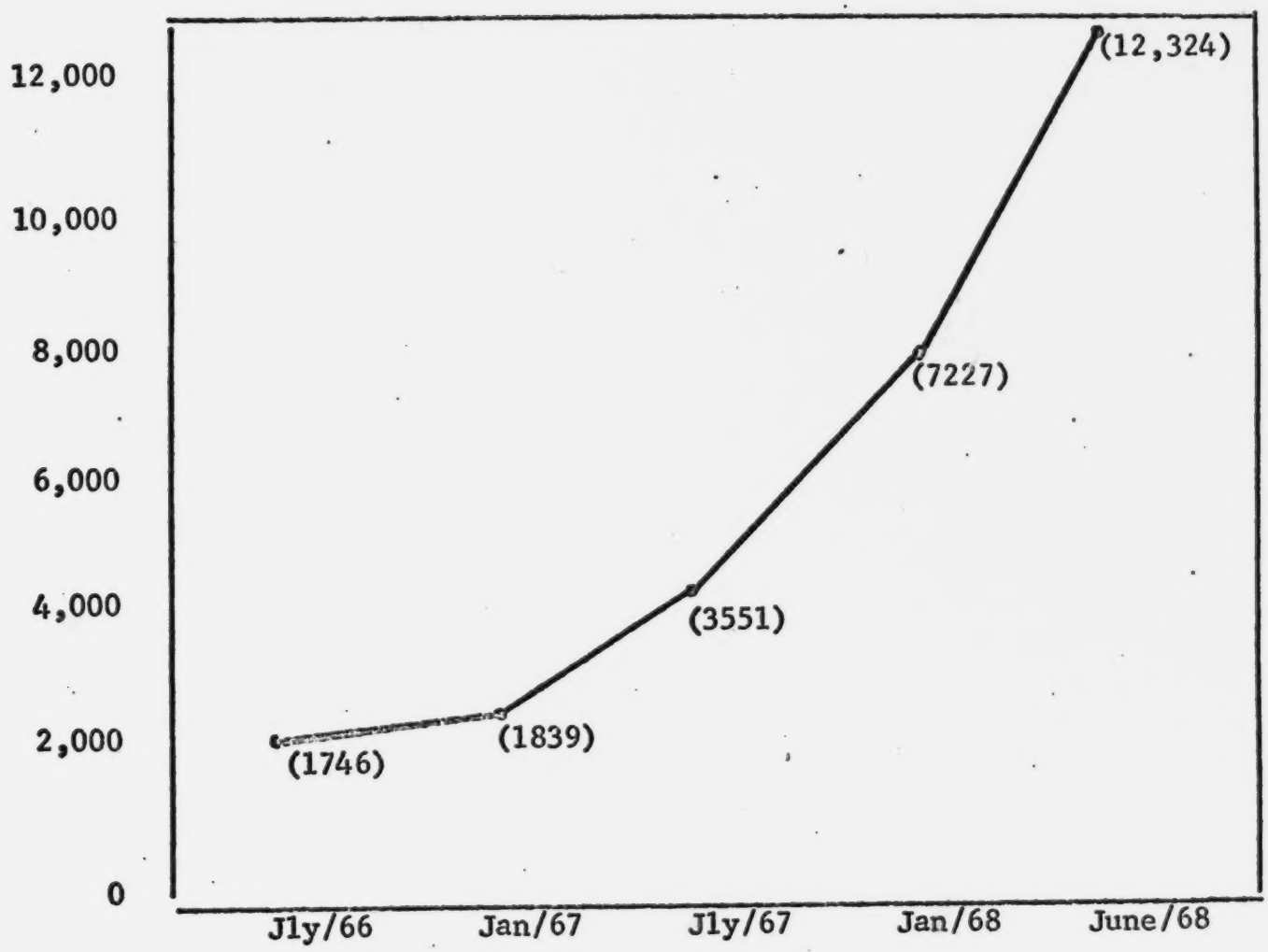


Table 1. Dates and Sizes of Special Collections Published Through ERIC

Date	Title of Collection and Indexes	Number of Documents Included	Microfiche Price of Collection
Sept., 1966	ASSISTANCE FOR THE DISADVANTAGED ERIC Catalog of Selected Documents on the Disadvantaged-- A. Number and Author Index B. Subject Index	1,746	$230
Aug., 1967	HIGHER EDUCATION COLLECTION Selected Documents in Higher Education, Number and Subject Index	845	$115
June, 1967	HISTORICAL COLLECTION Office of Education Research Reports 1956-65 A. Resumes B. Indexes	1,214	$280
Nov., 1967	TITLE III Pacesetters in Innovation, Fiscal Year 1966	1,075	$100
April, 1968	TITLE III Pacesetters in Innovation, Fiscal Year 1967	907	$120
July, 1968	COLLECTION BY INTERAGENCY COMMITTEE ON MANPOWER RESEARCH Manpower Research, Inventory for Fiscal Years 1966 and 1967	393	$60

The first eight issues of RIE included only Bureau of Research reports, but as document acquisition networks of clearinghouses began to function, each succeeding issue of RIE contained an increasing proportion of documents acquired by the clearinghouses. The shift in RIE from making available only reports received by the Bureau of Research of the Office of Education to a more comprehensive announcement bulletin is documented in Figure 2 and Table 2. Figure 2 shows that RIE has expanded from the 67 Bureau of Research reports announced in the first issue to nearly 800 included in the June, 1968 issue. Table 2 shows that recently-announced reports come from a variety of sources now instead of the Bureau of Research or the Office of Education.

Together Central ERIC and clearinghouse acquisition efforts are expected to net close to 24,000 unpublished documents on an annual basis. If clearinghouse judgments run true to their history over the last year, about half of these documents will be selected for announcement in RIE and for national dissemination; the other half will be discarded or retained in clearinghouse files. These figures clearly demonstrate that the acquisition programs of Central ERIC and the clearinghouses are accomplishing their objective: research and research-related documents are being acquired in large numbers. However, the objective of ERIC is to make quality documents of significance to education easily available to anyone who wants them. Therefore, documents are screened carefully to prevent the GIGO effect (Garbage-in and garbage-out, or in the case of information systems, Garbage-in and Gospel-out).

Thus far, the information presented indicates that the system works: documents from many sources are acquired, screened, those selected for national dissemination are announced, reproduced, and made available to educators. But is anybody listening? What demand has there been for ERIC materials? How has ERIC been used? Full answers to these questions are not available. Some data, however, shed light on these questions. These include sales data for RIE, records for sales and distribution of ERIC reports, and limited information on use of ERIC materials within educational organizations. In this section the sales data are analyzed; uses of ERIC materials within organizations are presented in the last section of the report.

Research in Education: sales and distribution

The sales record for RIE is shown in Figure 3. RIE has enjoyed a consistent increase in numbers of subscribers, up from 209 in January, 1967 to 4,550 in June, 1968. Also, by June, 1968, RIE had become the best seller among all abstract-index R&D bulletins published by Federal agencies. In addition, over 1,000 copies are distributed free to State libraries, State and some local education agencies, professional organizations, Federal agencies, and some colleges and universities offering a doctorate in education (see Appendix A-1).

Table 2. Sources of Reports Cited in the April and May Issues of RIE

Source	Number	Percent
Bureau of Research (OE)	215	16.9
Other Office of Education (Non-BR)	70	5.5
Other Federal Government Agencies (Non-OE)	86	6.8
Other Sources (Non-Federal)	902	70.8
Total	1273	100.0

Figure 2. Growth in Number of Reports Cited in Research in Education (RIE)

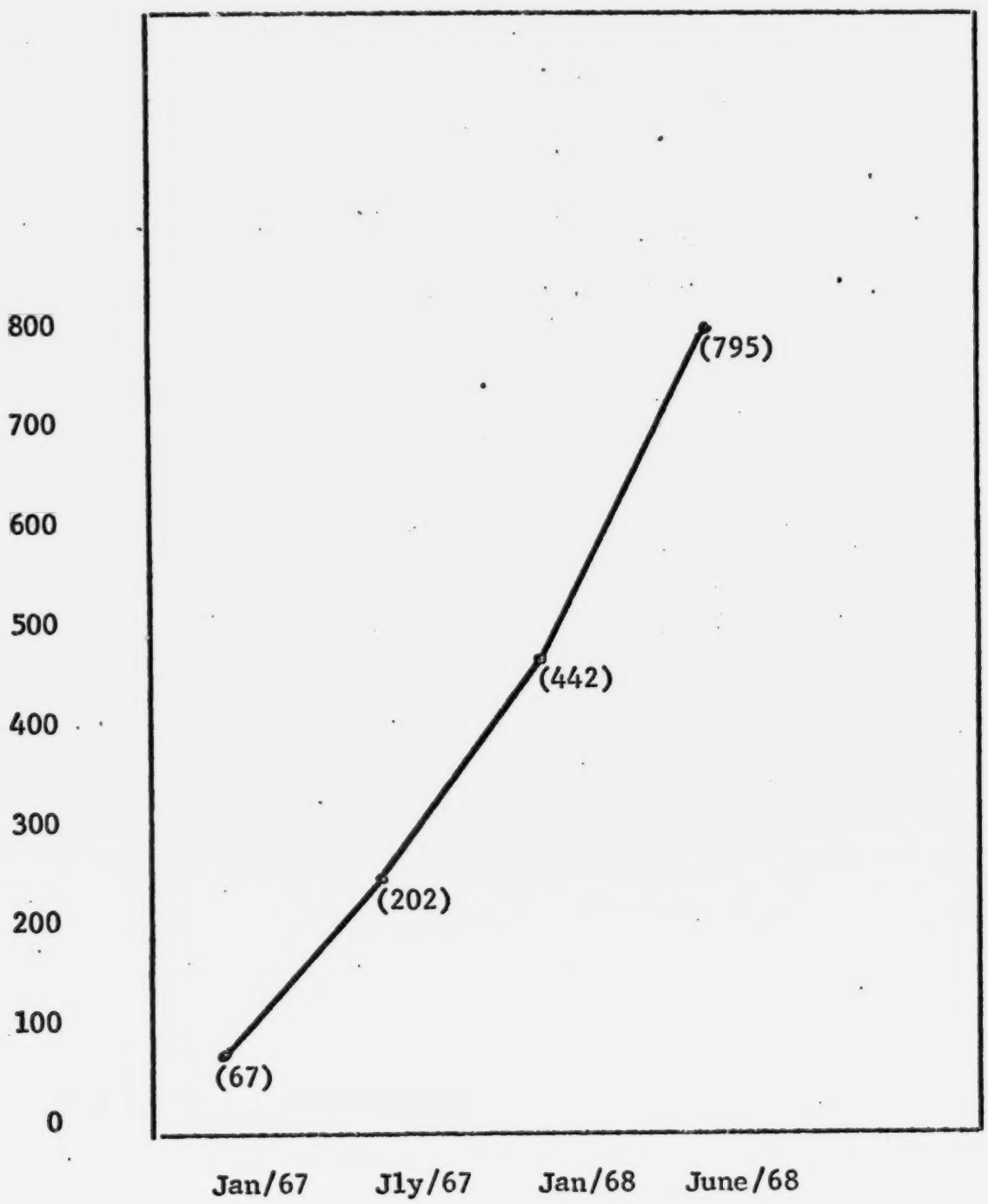
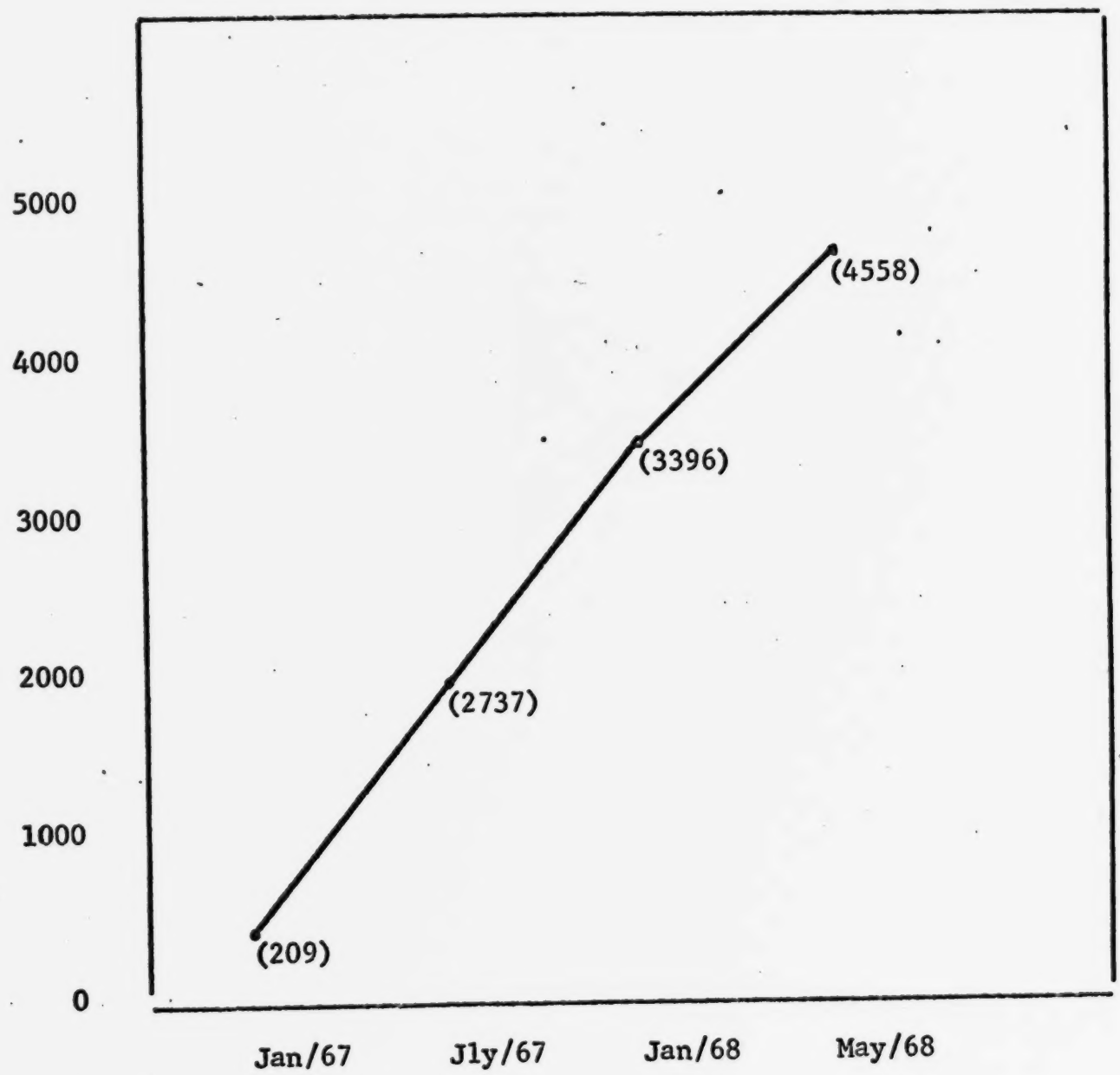


Figure 3. Growth in Numbers of Paid Subscribers to RIE



(RIE is the best-seller among abstract-index announcement bulletins published by Federal information systems.)

More than just the number of subscribers, it is important to know who and what organizations are subscribing to RIE. Table 3 provides this information. Institutions of higher education have been the largest category of subscribers, both in August, 1967 and April, 1968. They are followed closely, however, by a combination of State and local education agencies. All categories show an increase in number of subscribers, with the largest increases occuring among foreign subscribers and local school districts in the United States. Overall, subscriptions increased about 24 percent between August, 1967 and April, 1968.

More detailed analyses have been made for State and local education agency subscribers. These data are presented in Appendices A-2, A-3, and A-4. For now only a brief summary should be sufficient. In April, 1968, 80 percent of the State education agencies were purchasing at least one copy of RIE in addition to the three copies each receives free. The average subscription per State (Appendix A-2) was two copies, although the range was from 15 for the New York State agency to 0 for ten of the agencies.

Also, by April, 1968 in 96 percent of the States at least one local school district had subscribed to RIE. The mean number of subscriptions per State by local school districts was 19. California school districts led with 146 subscriptions, followed by New York with 119, Illinois with 53, Michigan with 68, and Pennsylvania with 69. Details are presented in Appendix A-3.

When information from State agencies and local districts are combined there is at least one subscription to RIE in every State. The mean number of subscriptions per State was 76. New York had the highest number of subscriptions (519), then California (412), Illinois (255), and Pennsylvania (219). Details are provided in Appendix A-4.

ERIC documents: sales and distribution

In 1965, 330,000 microfiche were distributed; the numbers for subsequent periods were 463,000 in 1966; nearly 1.2 million in 1967; and close to 1.5 million for the first six months of 1968. Thus, in the first six months of 1968 more microfiche were distributed than during the entire previous year. Also, hardcopy sales increased from 2,050 in 1966 when hardcopy was first made available, to 6,000 in 1967. Hardcopy sales in the first six months of 1968 (5,700 titles) practically equalled total comparable sales for 1967.

These figures include sales from requests for individual documents, sales for full sets of documents for collections, and sales resulting from standing orders for receiving all documents announced in RIE. Standing orders for RIE documents now account for most of the EDRS sales. By the end of June, 1968, there were 122 standing orders for documents announced in RIE. Table 4 gives a breakdown for the kinds

Table 3. Number and Percent of RIE Subscribers for 1967 and 1968 by Class of User

User Class	August 1967 No.	August 1967 % of Total	April 1968 No.	April 1968 % of Total	% Change
Institutions of Higher Ed.	1115	35.6	1314	33.9	17.8
Local School Units	712	22.7	960	24.8	34.8
State Agencies	85	2.7	93	2.4	9.4
Individuals	400	12.8	479	12.4	19.8
Commercial Org.	371	11.8	428	11.0	15.3
Foreign	122	3.9	211	5.4	73.0
Profess. Assoc. and Found.	95	3.0	104	2.7	9.5
Federal	65	2.1	81	2.1	24.6
Non-Profit Organ.	38	1.2	39	1.0	2.6
Miscellaneous*	128	4.1	165	4.3	22.4
TOTAL	3131		3874		23.7

*Includes public or special libraries, clinics, hospitals, churches, museums, and other organizations that did not fit into other categories listed previously.

Table 4. Standing Orders for all Documents Cited in RIE as of June, 1968

Purchaser	Number	Percent
Higher education inst.	87	71.5
Local schools	17	13.9
State agencies	9	7.3
Commercial organizations	4	3.3
Non-profit	1	.8
Other	4	3.2
Total	122	100.0

(In addition OE pays for 60 full collections: to Regional Labs, Regional Offices, Clearinghouses, HEW Library, Library of Congress and several sites in OE.)

of organizations that have placed standing orders with EDRS. Institutions of higher education accounted for almost three-fourths of the standing orders, and State and local education agencies, the next largest group, accounted for about one fifth. Other organizations made up the remainder. In addition, the Office of Education distributes 60 collections to ERIC clearinghouses, Regional Laboratories, Regional Offices, HEW Library, Library of Congress, and several locations within the Office of Education.

Institutions of higher education also led in the purchase of individual microfiche and hardcopy documents, but State and local education agencies ran a close second. Table 5 indicates that institutions of higher education, purchased over 16,000 of the more than 35,000 microfiche sold in the first six months of 1968, whereas State and local education agencies purchased over 14,000 microfiche in the same period. Institutions of higher education also bought close to 3,000 hardcopy titles as compared with nearly 2,600 purchased by State and local education agencies. Purchases by other groups and the ratio of microfiche to hardcopy sales also are shown in Table 5.

Requests for individual documents have been received from individuals and organizations in every State, although the numbers of copies purchased vary greatly among the States. In the first six months of 1968, for instance, the largest number of individual documents purchased on microfiche were from organizations and individuals in California (2,262), Texas (2,155), New York (1,485), Tennessee (1,402), Florida (1,216), and Georgia (1,116). Microfiche purchases originating within other States ranged downward to New Hampshire (34), North Dakota (30), Vermont (25), Wyoming (24), Alaska (20), and the Possessions and Territories (3). California also led in originating purchases for hardcopy (799), followed by New York (678), Pennsylvania (351), Michigan (343), Massachusetts (267), Illinois (242), Indiana (237), and Texas (201). At the low end were ten States in which hardcopy purchases totaled less than ten during the January-June, 1968 period. These States were Alaska, Arkansas, Delaware, Idaho, Maine, Montana, New Hampshire, North Dakota, Rhode Island, and Wyoming.

What then can we say in relation to the first objective set for ERIC in 1965? A reasonable interpretation of the data presented is that the objective of making documents readily available is well on the way to being met. Documents are being acquired in large numbers from a variety of sources. The documents are reviewed for quality and significance to education and are being processed, announced, and reproduced for ready availability. The sales data clearly indicate growing knowledge about the use of the system. ERIC is not being used solely by university-based personnel. State and local education agencies closely rival colleges and universities in purchases of ERIC materials.

Table 5. Total Sales of Individual Documents by EDRS, January-June, 1968

Purchaser	Microfiche (copies)	Hardcopy (copies)	MF/HC Ratio
Higher Education Institutions	16,089	2,851	5.6
Local Schools	10,652	2,340	4.6
State Agencies	3,494	232	15.1
Commercial	1,889	862	2.2
Foreign	1,362	428	3.2
Individuals	1,135	730	1.5
Regional Laboratories	306	179	1.7
Federal	264	96	2.8
Professional Associations and and Foundations	244	127	1.5
Other	125	157	1.9
Total	35,560	8,004	4.4

(Local and State agencies rival institutions of higher education in demand purchase of documents.)

OBJECTIVE TWO: INTERPRETING AND SUMMARIZING INFORMATION FOR USE BY DECISION-MAKERS AND PRACTITIONERS

The second major objective of the ERIC program is to interpret and summarize research data in ways that educational practitioners and decision-makers can use the information. The clearinghouses responded to the challenge of making information useful in a number of ways. Chief among them are preparation of newsletters, bibliographies, and interpretative summaries.

Newsletters

Practically all clearinghouses have issued a newsletter or have plans to do so. The newsletters vary in scope, size and format, but all have several features in common. Each includes announcements about ERIC products (how and where to obtain RIE or information about the specialized ERIC collections, the thesaurus, and how to obtain documents from EDRS); other sections include information about bibliographics, reviews or other publications of clearinghouses, information about other sources of information relevant to education; and still other sections include news items about upcoming events. Almost all newsletters also include a short review of research and research-related issues on critical educational topics and back these up with selected bibliographies of articles, books, and ERIC materials relevant to the topic being analyzed.

Names of the newsletters, their circulation, and clearinghouses responsible for them are listed in Table 6. Clearinghouses generally limit their circulation to key staff in prominent State or local agencies, professional organizations, Federal offices, and to nationally prominent specialists in universities, R&D Centers, and other research and development centers. In addition, newsletters are sent to all Regional Educational Laboratories, Regional Offices, and to appropriate offices within the Office of Education and other Federal agencies.

Most newsletters are distributed as separate publications by the clearinghouses. A few are distributed by professional organizations or are bound into journals published by the organizations. The tie-up between clearinghouses and professional organizations also extends to preparation and dissemination of research reviews.

Research reviews are prepared to help the serious reader who needs evaluated, summarized, information on a complex topic, but who simply can't, doesn't want to or won't wade through a pile of reports. Bibliographies are also prepared by clearinghouses to aid researchers and practitioners alike to sort out the most useful reports from the great mass being produced. All clearinghouses are preparing bibliographies, many annotated, and in depth reviews written in clear and understandable English, on critical topics within their scopes of interest.

Table 6. Dissemination Through Clearinghouse Newsletters

Clearinghouse	Title of newsletter or review	Number Distributed	Frequency of Mailing per Year
Adult Education	"ERIC Clearinghouse on Adult Education Newsletter"	2500	Periodic
Counseling and Personnel Services	"CAPS CAPSULE"	4000	3
Early Childhood Education	"ERIC"	3000	6
Educational Administration	"U-SERVE"	2500	6
Educational Facilities	"ERIC/CEF"	2100	Periodic
Educational Media and Technology	"ERIC at Stanford Newsletter"	3000	4
	"Now Available"	3000	6
Exceptional Children	"ERIC Excerpt"	3000	4
Junior College	"Junior College Research Review"	6500	10
Linguistics	"ERIC Clearinghouse for Linguistics Bulletin"	2800	6
Reading	"ERIC/CRIER Newsletter"	3800	3
Rural Education and Small Schools	"The Retriever"	3500	8
Science Education	"SEIAC"	5000	4
Urban Disadvantaged	"IRCD Bulletin"	9000	24
Vocational and Technical Education	"Centergram"	3500	12
	TOTAL	57,200	

(Sent to key local and State agency staff, professional organizations, Federal staff, prominent university staff, Regional labs, and R&D centers.)

Bibliographies and reviews

By June, 1968 over 160 major bibliographies had been produced by the clearinghouses. Some of these are part of a series such as the three produced by the Clearinghouse on Reading to cover all published research on reading from 1900 through 1966. One bibliography covered all published sources from 1900 to 1949; another from 1950 to 1963, and the last one brought the record up to date from 1964 to 1966. The series will be continued to provide researchers in the field of reading with an updated, single, and comprehensive source to all published literature on research related to reading. Other clearinghouses have produced a series of bibliographies based on identification of critical topics within a field. For instance, the Clearinghouse on Science Education has produced ten bibliographies on various aspects of teaching science. One deals with instructional procedures, another with teacher resource materials, and equipment and materials, all related to science education. The Clearinghouse on Pupil Personnel Services also has released a series of bibliographies on related topics, including small group work and group dynamics, the use of information in personnel services, and pupil personnel services. Other bibliographies are on specialized topics as illustrated by the titles included in Appendix A-5, and range from preschool to adult education.

Clearinghouses are also producing interpretative reviews of research findings and results from promising new educational programs. Over 50 major reviews had been disseminated by the end of June, 1968. The interpretative reviews are among the most important ERIC products. Leading specialists screen data from many sources and select only the most reliable and valid information. A great mound of information is reduced to manageable proportions for use by busy decision-makers and practitioners: unreliable and misleading information is cast aside. The reader receives an authoritative statement with a clear presentation organized around important issues or problems. Illustrative titles of interpretative summaries made available by June, 1968 are also listed in Appendix A-5. To put them into immediate circulation, a limited number of bibliographies and interpretative summaries are reproduced for immediate distribution to key individuals and groups served by the clearinghouses. In addition, documents are fed back into the ERIC system for announcement in RIE and for reproduction through EDRS to satisfy additional demands for copies and to put the bibliographies and reviews automatically in the growing number of ERIC depositories that are maintained through standing orders for RIE materials.

OBJECTIVE THREE: STRENGTHENING EXISTING COMMUNICATION CHANNELS FOR PUTTING RESEARCH INTO PRACTICE

ERIC's development has been guided by the principle that ERIC should help strengthen existing communication channels. In keeping with this policy, clearinghouse directors have been urged to develop relationships with professional organizations and State and local educational agency staff members so that all ERIC products and services can be made available to educators through existing channels--professional journals

and newsletters, conferences, and through programs of State and local agencies.

Joint publication through professional journals

Most clearinghouses have established arrangements with professional organizations for printing and disseminating newsletters and interpretative summaries developed by the clearinghouses. For instance, the newsletter (which really is a research review itself) and the more comprehensive interpretive summaries produced by the Clearinghouse on Junior Colleges are published and disseminated through the American Association of Junior Colleges. Similar arrangements are in operation or development by the Clearinghouses for Modern Languages, English, Media and Technology, Pupil and Personnel Services, Reading, Exceptional Children, Teacher Education, and Higher Education with their respective professional organizations. The dollar value of the contributions by professional organizations to dissemination programs made possible by the ERIC system is hard to estimate, but it is considerable. More important, however, is the service provided to members of the professional organizations. At no extra cost to them and without expenditure of much time or effort by these busy professional people, they receive selected, current information about R&D developments in their field of specialization--all delivered to their desk as part of the journal or newsletter they receive regularly from their professional organization.

Such arrangements have been established between ten clearinghouses and professional organizations that publish 30 journals or newsletters. The 30 publications are listed in Table 7, along with circulation information and names of sponsoring clearinghouses. The content of the publications vary, but generally each includes information about the ERIC program in general and specific products or services of the sponsoring clearinghouse, a short summary or review of developments on a critical topic, and a bibliography of recently announced ERIC documents. Thus, by using existing journals, with established audiences, clearinghouses can have the equivalent of a selective dissemination program, at practically no additional Federal expense. Equivalent programs run by other organizations cost up to hundreds of thousands of dollars.

In addition to the regular columns prepared by clearinghouses for publication in professional journals, editors of some journals have begun to build their own ERIC columns. To date we are aware of three such ventures: American Education, the NEA Journal, and the American Vocational Journal. Together these three journals reach an estimated 1,075,000 educators monthly.

American Education features one report on the back of its cover each month, with an appealing picture, a short summary of the findings, and information about how to order the report through EDRS. The NEA Journal includes a column based on three or four resumes taken from RIE, usually

Table 7. Dissemination to Selected Audiences Through Special ERIC Sections in Professional Journals (Prepared by ERIC Clearinghouses)

Clearinghouse	Journal	Frequency	Number of Subscribers	Type of Readers
Adult Education	Adult Leadership	Monthly	6,800	Directors of adult education programs
Counseling and Personnel	Personnel and Guidance Journal	3 x per yr	36,000	Practicing personnel workers
Educational Administration	r&d perspectives (CASEA Newsletter)	Quarterly	5,000	School administrators; professors of school administration
Educational Media	Audio Visual Instruction	Monthly	10,000	Researchers, learning resource directors practitioners
	Audio Visual Communication	Quarterly	5,000	Research and development specialists
	Educational Technology	Monthly insertion (in every other issue)	2,000	Media specialists, administrators, systems planners
	Educational Media Council Newsletter	Monthly	1,000 (estimated)	Officers, members, staff of media-involved member organizations
	Educational Broadcasting Review	6 x per yr	2,500	Educational broadcasters, researchers communication specialists
	Mass Media/Adult Education Newsletter	Monthly	1,500 (estimated)	Members of mass media sections of Adult Education Association
Exceptional Children	Exceptional Children	10 x per yr	44,700	To the 39,000 members of CEC and other professional in field and to about 6,000 institutional subscribers such as libraries and organizations

Table 7. Continued

Clearinghouse	Journal	Frequency	Number of Subscribers	Type of Readers
Junior Colleges	NFA Reports	4 x per yr	15,000	Junior college faculty members and staff
Linguistics	The Finite String	Monthly	1,500	Members of Association for Machine Translation & Computational Linguistics
	TESOL Quarterly	Quarterly	3,000	Members of Association of Teachers of English to Speakers of other Languages
Foreign Languages	Foreign Language Annuals	Quarterly	8,000	Members of American Council on the Teaching of Foreign Languages
Reading	The Reading Teacher	8 x per yr	30,000	Elementary reading teachers
	Journal of Reading	8 x per yr	8,000	Secondary, college and adult reading researchers
	Reading Research Quarterly	Quarterly	3,000	Reading researchers
Science education	The Science Teacher	9 x per yr	25,000	Secondary school teacher supervisors, teacher educators
	Science and Children	8 x per yr	25,000	Elementary teacher supervisors, teacher educators
	The Journal of the National Association for Research in Science Teaching	4 x per yr	1,500	Science education researchers, teacher educators

Table 7. Continued

Clearinghouse	Journal	Frequency	Number of Subscribers	Type of Readers
Teaching of English	Council-Grams	Bi-monthly	2,000	National leaders in English
	English Newsletter	Quarterly	4,200	English supervisors and curriculum directors
	CEE Newsletter	Quarterly	1,800	Specialists in English education
	Research in the Teaching of English	Semi-annual	2,200	Specialists in English education
	Elementary English	8 x per yr	37,000	Elementary language arts teachers
	ADE Bulletin	Quarterly	900	College and university English department chairman
	English Journal	9 x per yr	62,000	Secondary English teachers
Teacher Education	AACTE Bulletin	Monthly	4,000	Institutional representatives and presidents of member organizations libraries
	Journal of Teacher Education	Monthly	3,200	Staff of teacher education programs, State agencies, professional organizations, libraries
	AST Newsletter	Quarterly	5,000	Members of Association of Student Teachers, college and university staff
		TOTAL	356,800	

with a well drafted, eye-appealing lead-in question appropriate to the central findings of the study being reported. The American Vocational Journal treatment of ERIC materials is the most complex of the three. The section largely based on ERIC is called "Research Visibility" and runs 15 or 16 pages each month. Included are one or several research summaries, a critical review on a timely topic, and a selective bibliography of ERIC documents relevant to the central theme of that month's topic.

Other ERIC contributions to dissemination programs of professional organizations

In addition to publication arrangements, ERIC clearinghouses have contributed to strengthening dissemination programs of professional organizations in a number of ways, among them being:

- Helping national organizations develop means so that significant papers presented at national conferences are not lost, but are preserved as part of the archival literature in specialized fields in education. Clearinghouses have assisted national organizations in compiling indexes and organizing conference proceedings and in preparing synthesis volumes in which the many papers and information are reduced to more usable form.

- Contributing to development of national comprehensive bibliographic activities by stimulating national organizations to work together to unify previously fragmented and sometimes duplicated effort. For instance, three clearinghouses, Modern Languages, Linguistics, and English are working together with four professional organizations, The Modern Language Association, the Linguistic Society of America, The American Council of Teaching of Foreign Languages, and the National Council of Teachers of English to prepare a comprehensive annual bibliographic system that will cover all phases of modern language activity in education.

- Developing a data bank of validated instructional programs. This is being pursued jointly between the Clearinghouse on Media and Technology and the National Society of Programmed Instruction.

- Conducting workshops and training sessions at national conferences on using ERIC's services and other information sources effectively.

- Contributing to improved reviews of research in professional journals: American Educational Research Association's Review of Educational Research includes papers prepared with bibliographic and subject-matter assistance from staff of clearinghouses. This effort also has resulted in further announcement and dissemination of BR reports: for instance, 30 percent of the citations in a recent review in Review of Educational Research were BR reports identified as relevant by a clearinghouse

and now available through EDRS. Prior to ERIC's beginning, authors were not permitted to cite nonpublished material (such as BR reports): now they may cite ERIC documents (including BR and other OE reports) because they are now readily available through EDRS.

On-site uses of clearinghouse services

One of the original objectives set for the clearinghouses was that the clearinghouses would become the "alma mater" of invisible colleges of specialists who share a common field. The extent of on-site use of clearinghouses by United States and foreign educators, suggests that many of the clearinghouses are becoming internationally recognized as unique intellectual centers.

During any month, many representatives of ministries of education or foreign universities from many countries visit ERIC clearinghouses. A quick tally of recent visitors includes a number from Canada, others from Russia, Australia, New Zealand, England, France, the Netherlands, Germany, Rumania, India, Finland, Nigeria, Japan, Hong Kong, the Sudan, Korea, and the Republic of China.

On numerous occasions researchers or educators from the United States have come to clearinghouses to do their library and reference work. The longest on-site residency of a specialist at a clearinghouse is three-quarters of an academic year, although about a half dozen persons have spent one or two quarters of their sabbatical year at a clearinghouse. Illustrative of other kinds of intensive on-site uses of clearinghouse facilities and collections are:

- A team from the American Institutes of Research spent two weeks at the Media and Technology Clearinghouse to compile a bibliography on literature on media instruction for the disadvantaged.

- A researcher spent one week at the Clearinghouse on Disadvantaged to compile information for a report to Superintendent Donovan of New York City on experimental programs to improve educational achievement of inner-city children.

- A representative of a tenants association spent the better part of five days at a clearinghouse looking for information on the development of residential schools.

- The State Department of California used the services of the Clearinghouse on Rural Education and Small Schools for a week to develop a bibliography on migrant education which they said would otherwise have taken "a month or a year or more" to develop if they had not had the services of the clearinghouse.

- A research team spent two weeks at a clearinghouse in developing evaluation criteria for review of educational programs for disadvantaged and migrant children.

- A university professor spent one week at the Clearinghouse for Educational Administration to develop a bibliography on school boards.

- Researchers from the Ford Foundation Task Force on the Interdisciplinary Study of Reading Problems used the Clearinghouse on Reading for its in depth search of the literature on that subject.

Direct services to OE-supported programs

Clearinghouses are providing a variety of direct services to activities supported by the Office of Education. Many of these services are unrecorded because they are provided in the context of frequent and informal relationships between clearinghouse directors and their staff members and their professional colleagues who direct ESEA, NDEA, higher education, or other State and local educational programs. Still, some specific and concrete ways in which clearinghouses have contributed to the accomplishments of goals of OE-supported projects include:

- Distribution of clearinghouse newsletters, bibliographies, and research reviews to key staff as illustrated by the mailing of the IRCD Bulletin from the Clearinghouse on Disadvantaged to all State Title I directors.

- Preparation of bibliographies and review papers in support of the conference on Mexican-American education held by the Office of Education and completion of arrangements with the Southwest Educational Development Laboratory to print 500 copies of these to satisfy requests for additional copies.

- Distribution of packets of information, specialized bibliographies and review papers to directors of NDEA institutes in fields such as English, media, guidance and counseling, and reading.

- Distribution of material on vocational education training to directors of the State Vocational Research Coordinating Units and to directors of various vocational educational training programs.

- Joint development of programs by the Regional Educational Laboratory for Virginia and the Carolinas. This Laboratory, which focused on higher education, has located several staff at the Junior College Clearinghouse so that the Laboratory could use the clearinghouse document collection and retrieval skills of its staff most effectively. Joint publications are planned.

Also, the Laboratory will develop and test programs based on designs drawn from the literature searches and analyses conducted by the Clearinghouse. Results of the demonstrations will be fed back through the Clearinghouse for dissemination.

- Backup support to the Research Coordinating Units, funded under Vocational Research, are located in 46 States. All the RCUs are engaged in dissemination activities and draw upon the ERIC system. The New Jersey RCU, for example, distributes a monthly newsletter called Feedback, largely based on ERIC materials, to nearly 4,000 vocational educators. Each quarterly issue runs between 12 and 16 pages and contains 40 to 50 resumes of reports cited in RIE that are relevant to vocational education programs.

- Constant, daily use of RIE and indexes to special collections by staff of the Bureau of Research and other OE staff in review of proposals and in consulting with educators and researchers.

- Frequent use of ERIC materials by educators who come to the OE Headquarters Information Room and to Regional Offices for help. Full ERIC collections are maintained at all Regional Offices. Some of these Offices report that 10 to 15 microfiche are used daily; RIE is in constant use; and more use is made of ERIC materials than of most other items maintained in the information rooms. Most persons are searching for a few specific documents and leave with what they want after using the indexes and microfiche readers for an hour or so. Extensive use of ERIC collections at Regional Offices, however, is not uncommon. For instance, an educator assigned responsibility for redesigning the vocational education program for a local district traveled 50 miles one-way daily for a month to use the ERIC collection at a Regional Office. In another case, a blind educator wished to make extensive use of the ERIC collection. The Regional Director of Research arranged for a high school-aged Youth Opportunity Worker to be trained in use of the ERIC system and following the educator's leads she selected material for him and read the microfiche to him. They worked together for three weeks.

Consultation with State and local agencies

Staff of Central ERIC and from clearinghouses are helping State and local educational agencies to develop their own information-dissemination capabilities. Classification schemes, document processing arrangements, reference techniques, and other operations of information storage and retrieval and dissemination are described and organizations are helped to select processes and arrangements best suited to their needs and budgets. For instance:

The State of California is using the ERIC resume form for dissemination of curriculum materials produced by California school districts.

The School Research Information Service developed by Phi Delta Kappa has based its entire system upon the concepts of the ERIC program and uses the ERIC resume form.

A number of Title III (ESEA) Centers have drawn upon the expertise of clearinghouses in developing their programs. Several are using clearinghouse procedures for developing their own report processing and dissemination programs.

Also, clearinghouse staff often have helped local and State representatives to resist expensive and often unnecessary computer systems urged by consultant firms and to adopt more suitable and far less expensive alternatives.

ERIC's international contribution

RIE (see Table 3) is already being purchased by 211 foreign subscribers (as of April, 1968). Foreign purchase of documents from EDRS also is rising.

More important in the long run, however, is the interest of foreign governments and international organizations in developing as a representative from Sweden put it, "their own ERIC." Other countries have asked for details about ERIC to use in designing their own educational information systems. In addition, interest in developing an international educational information system involving the United States (ERIC) and other countries has been expressed by OECD and the Council of Europe. Some discussion also has been initiated with UNESCO. As a first step in "internationalizing" ERIC, a full set of materials has been sent to the Center for Innovation, established by OECD.

Finally, in addition to purchase of RIE and documents from EDRS, there have been two unusual international uses of ERIC materials. This past summer (1968), Dr. John Caroll conducted a European seminar on Learning and the Educative process. Through the seminar he purchased a complete set of fiche for the collection of USOE Research Reports, 1956-1965 and a reader. The fiche was used extensively by the seminar group. At the end of the seminar he donated the fiche and the reader to the Swedish Library on Psychology and Education in Stockholm. They, too, have found it to be invaluable and plan to build up a complete ERIC collection. In the other case, an American scholar was asked to lead seminars in Rumania and Poland on the teaching of English. The sponsor, the Department of State, provided several hundred dollars to purchase books for use during the seminars. Instead, the scholar purchased 400 microfiche documents from EDRS and with the money that was left over bought a portable microfiche reader. Thus, seminar members will be able to use a library of several hundred titles instead of 20 or 30 as would have been the case if money had been spent for books instead of microfiche.

Reference services provided by clearinghouses

In addition to providing assistance and back up to other organizations engaged in dissemination, the ERIC program has introduced new needed services as well. RIE, special collections of documents (disadvantaged, Title III projects, etc.), EDRS, and clearinghouse publications and consultative services have already been described. One other clearinghouse service needs to be described. This is the reference or inquiry answer service provided by clearinghouses. Although no major announcements have been made about this service because of limited staff and funds available for responding to inquiries, the clearinghouses receive thousands of letters, calls, or on-site requests for help. For example, 11,631 inquiries were received by clearinghouses between January 1 and June 30, 1968. Inquiries range from requests for information about how to use ERIC, information about new new developments in a precise area, to requests to send me all the information you have on the "disadvantaged," "handicapped" or some other complex topic. Inquiries are received from many different kinds of persons, but come mainly from practitioners, as shown in Table 8.

The information in Table 8 is based on an analysis of inquiries received by the clearinghouses between January-June, 1968. (In addition, Central ERIC receives about 400 letters per month). Of the 11,631 inquiries about 35 percent came from practitioners (teachers and counselors, etc.) and 22 percent were from decision-makers or their staff (school boards, superintendents, principals, etc.) Well over half came from persons directly responsible for operating educational programs. Only 12 percent were from researchers, and the remainder came from a variety of persons--students, parents, staff of professional organizations, and State or Federal agencies.

OBJECTIVE FOUR: PROVIDING A BASE FOR A NATIONAL EDUCATION INFORMATION NETWORK

Basically, all ERIC activity is designed to contribute to this goal. To be used effectively, information about new and promising R&D leads must be available through local information centers. These centers can become the front-line depositories of ERIC materials. With the addition of journals and other reference books, and staff who know how to use these materials, much of the nation's (and the world's) current knowledge from educational R&D activities can be readily available in any local school district or State educational agency.

ERIC's services go far in making this Utopian sounding possibility a reality. For less than $2,000 today an organization can acquire an instant, ready-to-use, fully indexed, and easily searchable library of nearly 15,000 screened educational R&D documents. Specialized products of the clearinghouses can be obtained simply by asking clearinghouses to put organizations on their mailing lists.

Table 8. Reference and Bibliographical Services Provided by ERIC Clearinghouses, January-June, 1968

Requestor's Educational Role	Number	Percent
Practitioner (teacher counselor, librarian, etc.)	4,030	34.6
Decision-makers (administrators, superintendent's office staff, etc.)	2,510	21.6
Researchers	1,433	12.3
Staff of professional organizations	1,004	8.6
Others (parents, students Federal Government staff, etc.)	2,654	22.9
Total	11,631	100.00

Further plans for ERIC are designed to facilitate development of local centers and to contribute to improvements in the efficiency and effectiveness of their operation. Specific steps in that direction include:

- Development of on-line interrogation of ERIC files through remote terminals: expected to be operation in late 1970. Then information centers will be able to dispense with searching through printed indexes and will be able to search through thousands of documents in thousandths of a second to locate the desired documents.

- Dissemination of information on how to use ERIC; two brochures have been widely disseminated: ERIC Can Help (a one-page fold-out flyer containing general information), and How to Use ERIC (a self-instructional manual on how to use the system and do a search).

- Development of reference and operational manuals for use in local information centers. Three volumes have been prepared: one on how to establish and operate a local center: and two others as guides to sources of information--one for education and the behavioral sciences and the other for the sciences and engineering. All three are expected to be published in 1969.

- Stimulation of training programs for staff of local centers. Three one-week institutes were held in August 1968. Others are planned for 1969, both in the summer and as one-day programs with professional organizations and through OE Regional Offices.

IMPACTS OF ERIC

Many impacts of ERIC upon the educational community have already been cited in this paper. Data are available for several more indicators of ERIC's contribution to helping educators find and use information they want. These are data on use of RIE in comparison to other indexes; information about use of ERIC materials in college and university libraries; and information about the value of ERIC to operators of information centers in local and State educational agencies and Regional Educational Laboratories.

Comparative use of Research in Education

Comparisons of relative use of RIE and other national indexing publications is an exacting measure of the value of RIE to educators and researchers. Data for such a test were obtained in a study directed by Saul Herner and are reported in Table 9.[2/] Among the respondents who directed research

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[2/] See: Saul Herner, Janet D. Griffith, and Mary Herner, Study of Periodicals and Serials in Education. Final Report Project Number BR-7-0993, U.S. Office of Education. Available from EDRS as ED-017747.

Table 9. Use of RIE in Comparison with Other Secondary Announcement Bulletins by a Sample of Directors of BR Projects, Staff of Regional Laboratories and Title III (ESEA) Projects

Type of Institution Respondent Worked In	Secondary Publication				Total Number
	RIE	Education Index	Dissertation Abstracts	Psychological Abstracts	
Local or State Agency					
Number	162	152	97	71	259
Percent	62.5	58.7	37.4	27.4	
Higher Education					
Number	164	165	168	138	285
Percent	57.5	57.9	58.9	48.4	
Other					
Number	33	32	23	26	63
Percent	52.4	50.8	36.5	41.3	
Total					
Number	359	349	288	235	607
Percent	59.1	57.5	47.4	38.7	

(RIE used as frequently or more frequently than other well-known, long established abstract index bulletins by "core" R&D specialists receiving OE support.)

programs for Title III (ESEA) projects at the local or State educational level, RIE was used more frequently (by 62% of such respondents) than Educational Index (used by 59%). Researchers at institutions of higher education reported approximately equal use of three secondary journals: RIE and Education Index were used by 58% of the respondents and Dissertation Abstracts by 59%. Thus, even though it is a newcomer to education (less than two years old at the time of the survey), RIE's use by researchers and educators working on projects supported by the Office of Education compares very well with use of long-established, well-known abstracting-index journals.

Uses of ERIC materials in libraries

Most of the orders for ERIC materials from institutions of higher education are from their libraries. ERIC staff have visited several of these libraries. The librarians reported that RIE, and other ERIC indexes to a lesser extent, are in constant use. They were unable to provide hard data because the reference volumes are open and records of their use are not kept. Because of RIE and the index volume to OE Research Reports 1956-1965, previously unused hard copies of OE reports stored by university libraries are now being used much more. Before ERIC, there was no index to these reports. Now there is, and the research data they contain are now accessible and are being used.

Because of their nearness to OE, the HEW librarian and his staff were asked to report on the use of ERIC materials in their library. While their report certainly cannot be generalized to all libraries, it may be useful for indicating the range of use of ERIC materials in other libraries. They report that ERIC materials are used more frequently than older and much used reference publications such as those of the Bureau of the Census and Bureau of Labor Statistics. Microfiche used average about 50 a week. Users fall into three groups: local graduate students (undergraduates are not permitted to use the library); teachers in the District and the neighboring counties, particularly those working on curriculum projects for their schools; and individuals serving as consultants (or doing the actual research) for commercial research firms. What type of persons use microfiche, and just what type of information do they seek? Examples of users since January of 1968 include:

- A sociology professor and several graduate students from Howard University came to search for information on educating the Negro child in his neighborhood school.

- A professor of education from George Washington University came to consult microfiche in order to make class reading assignments.

- Two men working on research contracts went through several hundred microfiche searching for titles relating to school administration. They made a lengthy list of the microfiche

they would submit to their company for purchase, and said they would return later to "bring the list up to date."

- A staff member from the Voice of America came with a list of microfiche documents relating to the study of English as a foreign language. He wanted to review them and get information on their purchase before sending the list overseas.

Another library has reported recently on its extensive use of ERIC materials.[3] In brief, the Fullerton Junior College Library has taken the frustration out of searching for material by introducing a service whereby faculty members automatically receive all ERIC documents that fit their interest profiles. Faculty response, in all college departments has been enthusiastic. Response also came from an unexpected quarter--from the students. Demand for reports by students has been so great that educational reports dealing mainly with elementary and secondary education, are now being ordered to satisfy the demands of elementary education majors.

Uses of ERIC materials in educational information centers

As part of a study supported by the Bureau of Research, staff of the American Institutes of Research conducted a telephone interview with representatives of 26 organizations having standing orders for all reports cited in RIE.[4]

One of the purposes of the survey was to obtain information about how frequently ERIC materials are used and for what purposes. This objective was not fully attained because, as was discovered in visits to university libraries, records are not kept for use of reference materials by most libraries. Six organizations could not specify use, even in gross terms: the other 20 provided estimates: 11 reported less than 10 users in a "typical" week; 4 reported roughly 11 to 25 users; and 5 reported 26 to 100 persons used their ERIC materials in a "typical" week. Eighteen organizations also reported that usage of ERIC materials was increasing.

Because the reporting organizations generally permit free or open access to the ERIC materials, hard data on the motivations of users could not be obtained. Still, the respondents believed most users had a specific purpose in using the materials. Their impressions were that most users wanted ERIC materials for use in research activity; the next greatest use was as a source of information for teaching purposes; then as an aid in administration; and a less frequent purpose was for browsing or simply trying to stay abreast of the literature.

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[3] Shirley E. Bosen and William T. Whitney, "A Case Study: ERIC and the Junior College Library," Junior College Journal, 39 (September, 1968), 20-22.

[4] Details of the final report are expected to be available through ERIC about April, 1969.

Respondents also praised and criticized ERIC.

Among the praises were the following:

- OE did a good job in utilizing the experience of other agencies in setting up its system.
- OE is to be commended for taking the leadership in the field.
- The ERIC system represents a tremendous step forward.
- ERIC is a real treasure to the people in the State.
- In years to come this will be the most valuable service around.
- The quality and quantity of documents has improved--more significant documents are coming in and more research studies are getting into the system.
- The collection on the disadvantaged is excellent.
- The education faculty says this system is much needed.
- The ERIC system is a good idea; the materials are terrific; a wonderful idea; a gold mine.

Criticism leveled at ERIC include the following:

- The layman may be confused as to what the system (RIE) is. It scares people.
- The subject indexes are hard to use; more terms are needed; they should be more specific; cross references should be improved.
- There has been a long time lag in getting documents from EDRS.
- OE should get more word out to the people on how to use the ERIC materials.
- OE should make these materials available for free if one is carrying on an activity such as serving the public schools.

The respondents also suggested new types of services that they would like to have provided through ERIC, including:

- Development of an index to journals so that persons could search all journal articles in education. We are looking for an Index Medicus of Education. We are dependent on ERIC's expansion, particularly the advent of access to the magnetic tape system. Otherwise, we feel we will have to process documents outselves.

- We are currently key punching information from RIE to better serve our users. We are excited at the thought that copies of North American's tapes will be made available to the users. The North American tapes should be available for the performance of searches. North American has the capacity and this is the final touch that would make the system work.

- We would like on-line access to the ERIC tapes for direct search capacity for research purposes.

- We would like to be able to search the materials which remain in the clearinghouses.

- More clearinghouses are needed in specific areas not now covered such as art, music, and social sciences.

- A current awareness service should be added.

Fortunately, recent developments or plans for immediate next steps in development of ERIC will go far in solving most of the problems cited by respondents.

Some, no doubt, will remain scared of ERIC until they are walked through a search exercise. Then, the system becomes simple. Local centers, however, with trained staff, will remain the key to reaching and teaching teachers, administrators, and others on how to use ERIC. The brochure, How to Use ERIC, released after the telephone survey, will help as well. Criticism of indexing also should abate when persons become more proficient in using the indexes. The lag in filling microfiche orders at EDRS was unavoidable, due to the freeze in Federal funds at the time the contract should have been awarded. Problems remain, but the worst of the situation is behind us.

Next steps in development of ERIC will greatly add to the power and efficiency of local information centers. Three of the services requested are under development. These are providing for dissemination of ERIC tapes, on-line interrogation capability, and developments of an index to journal literature. Development of additional clearinghouses to round out the system and provision of current awareness services will have to be deferred to future development.

Finally, additional data are needed on the cost-effectiveness or trade-off values of different clearinghouse activities. This avenue is being pursued and more refined evaluation data are expected to be available for ERIC operations through fiscal year 1969.

Appendix A-1. Official Distribution List of Research in Education

CATEGORY	NUMBER
1. State Libraries (material available for inter-library loan):	54
2. State education agencies and operations:	
A. Chief State school officer or designee	55
B. State vocational research unit coordinators	44
C. Selected State and regional agencies for higher education	53
3. Publications:	
A. Selected national professional journals and newsletters	103
B. Selected national press	8
4. International:	
A. Selected ministries of education	36
B. Selected organizations	9
C. Special listings	6
5. Federal Government:	
A. Agency libraries and selected positions	52
B. Selected members of Congress (Senate-Labor & Pub. Welf. Com. members House-Ed. and Labor Com. members)	49
C. Key DHEW administrators	23
D. OE administrative and program personnel	168
E. OE regional offices	9
F. OE regional directors of research	9
6. Bureau of Research External program:	
A. ERIC clearinghouses	18
B. ERIC contract firms and organizations	5
C. Educational Laboratories	21
D. Research and Development Centers	9
E. Instructional materials centers for HCY	14
F. Selected research operations (OE funded centers)	12
G. Bureau of Research standing com members	53
7. Selected foundations (interested/involved in educ. res.)	7
8. Colleges/Universities offering doctorate in education*	81
9. Special listings	24
10. Public School Superintendents*	101
TOTAL:	1,023

*Supplied in response to specific request.

Appendix A-2. Number and Percent of State Agency Subscribers to RIE for April, 1968

State	April, 1968 No.	%	State	April, 1968 No.	%
Alabama	1	1.1	Montana	2	2.2
Alaska	-	---	Nebraska	-	---
Arizona	-	---	Nevada	-	---
Arkansas	1	1.1	New Hampshire	2	2.2
California	11	11.8	N. Jersey	2	2.2
Colorado	1	1.1	N. Mexico	-	---
Connecticut	3	3.2	N. York	15	16.1
Delaware	3	3.2	N. Carolina	2	2.2
Florida	2	2.2	N. Dakota	3	3.2
Georgia	3	3.2	Ohio	-	---
Hawaii	-	---	Oklahoma	1	1.1
Idaho	-	---	Oregon	2	2.2
Illinois	2	2.2	Pennsylvania	4	4.3
Indiana	1	1.1	Rhode Is.	3	3.3
Iowa	1	1.1	S. Carolina	1	1.1
Kansas	1	1.1	S. Dakota	2	2.2
Kentucky	-	---	Tennessee	1	1.1
Louisiana	1	1.1	Texas	4	4.3
Maine	1	1.1	Utah	1	1.1
Maryland	2	2.2	Vermont	1	1.1
Massachusetts	1	1.1	Virginia	1	1.1
Michigan	2	2.2	Washington	1	1.1
Minnesota	1	1.1	W. Virginia	3	3.2
Mississippi	1	1.1	Wisconsin	2	2.2
Missouri	1	1.1	Wyoming	-	---
	TOTAL			93	
	$\bar{X}$ Per State			1.9	
	% States with at least one subscription			80%	

Appendix A-3. Number and Percent of Local School Unit Subscribers to RIE for April, 1968

State	April, 1968 No.	%	State	April, 1968 No.	%
Alabama	8	.8	Montana	3	.3
Alaska	2	.2	Nebraska	9	.9
Arizona	13	1.4	Nevada	5	.5
Arkansas	5	.5	N. Hampshire	9	.9
California	146	15.2	N. Jersey	42	4.4
Colorado	12	1.3	N. Mexico	4	.4
Connecticut	26	2.7	N. York	119	12.4
Delaware	4	.4	N. Carolina	8	.8
Florida	17	1.8	N. Dakota	-	--
Georgia	7	.7	Ohio	23	2.4
Hawaii	2	.2	Oklahoma	1	.1
Idaho	1	.1	Oregon	13	1.4
Illinois	53	5.5	Pennsylvania	69	7.2
Indiana	13	1.4	R. Island	5	.5
Iowa	7	.7	S. Carolina	7	.7
Kansas	5	.5	S. Dakota	4	.4
Kentucky	7	.7	Tennessee	7	.7
Louisiana	9	.9	Texas	29	3.0
Maine	-	--	Utah	4	.4
Maryland	20	2.1	Vermont	2	.2
Massachusetts	46	4.8	Virginia	16	1.7
Michigan	68	7.1	Washington	32	3.3
Minnesota	23	2.4	W. Virginia	2	.2
Mississippi	1	.1	Wisconsin	22	2.3
Missouri	23	2.4	Wyoming	1	.1
			D.C.	4	.4
			U.S. Poss. & Terr.	2	.2
			TOTAL	960	
			$\bar{X}$ per state*		19.1
			%states with at least one subscription	96%	

*Excludes the Possessions Territories, and D.C.

Appendix A-4. Number and Percent of RIE Subscribers for April 1968 By Geographic Location

State	April, 1968 No.	% of Total
Alabama	34	.9
Alaska	4	.1
Arizona	40	1.0
Arkansas	14	.4
California	412	10.6
Colorado	44	1.1
Connecticut	72	1.9
Delaware	13	.3
Florida	88	2.3
Georgia	38	1.0
Hawaii	13	.3
Idaho	3	.1
Illinois	255	6.6
Indiana	69	1.8
Iowa	46	1.2
Kansas	42	1.1
Kentucky	27	.7
Louisiana	28	.7
Maine	11	.3
Maryland	77	2.0
Massachusetts	153	3.9
Michigan	183	4.7
Minnesota	77	2.0
Mississippi	23	.6
Missouri	66	1.7
Montana	10	.3
Nebraska	25	.6
Nevada	15	.4
New Hampshire	21	.5
New Jersey	107	2.8
New Mexico	21	.5
New York	519	13.4
North Carolina	51	1.3
North Dakota	7	.2
Ohio	126	3.3
Oklahoma	23	.6

Appendix A-4 (Continued)

State	1968 No.	% of Total
Oregon	43	1.1
Pennsylvania	219	5.7
Rhode Island	20	.5
South Carolina	23	.6
South Dakota	12	.3
Tennessee	51	1.3
Texas	129	3.3
Utah	17	.4
Vermont	6	.2
Virginia	70	1.8
Washington	73	1.9
West Virginia	23	.6
Wisconsin	78	2.0
Wyoming	2	.1
District of Columbia	127	3.3
U.S. Poss. and Terr.	13	.3
Foreign	211	5.4
TOTAL	3874	
$\bar{X}$ Per State*	75.7	
% States with at least one subscription	100.0%	

* Excludes possessions, territories and D.C.

Appendix A-5. Resource Lists, Bibliographies, and Reviews of Research Produced by Clearinghouses through June, 1968

Total number produced	Number
Resource lists or bibliographies	165
Major reviews of research	55

Illustrative titles

A. Resource lists or bibliographies

1. Abstracts of Instructional Materials in Vocational and Technical Education (AIM). Clearinghouse for Vocational and Technical Education. Quarterly Page 350 or thereabouts each issue.

2. Abstract of Research and Research Related Materials in Vocational and Technical Education (ARM). Clearinghouse for Vocational and Technical Education. Quarterly Page 350 or thereabouts each issue.

3. Preschool Education. Clearinghouse on the Disadvantaged. Page 12. 1967.

4. The Junior College President. Clearinghouse on Junior Colleges. Page 13. 1968.

5. Reports on Reading and the Disadvantaged: Elementary Level. Clearinghouse on Reading. Page 107. 1968.

6. The Junior and Community College Faculty. Clearinghouse on Junior Colleges (with the National Faculty Association of Community and Junior Colleges. Page 20. 1968.

7. Nongraded Elementary Schools. Clearinghouse on Early Childhood. Page 18. 1967.

8. Annotated List of Recommended Elementary and Secondary Curriculum Guides in English, 1967. Clearinghouse on Teaching of English. Page 22. 1968.

9. Current Resources: Pupil Personnel Services. Clearinghouse on Counseling and Personnel Services. Page 96. 1968.

10. Selected Bibliography on Collective Negotiations. Clearinghouse on Educational Administration. Page 9. 1968.

11. Published Research Literature in Reading, 1900-1949. Clearinghouse on Reading. Page 485. 1968.

12. Published Research Literature in Reading, 1950-1963. Page 387. 1967. Clearinghouse on Reading.

13. Published Research Literature in Reading, 1964-1966. Clearinghouse on Reading. Page 172. 1968.

14. General Bibliography Series. Bibliography 1 - Instructional Procedures. Clearinghouse on Science Education. Page 59. 1967.

15. Bibliography of Environmental Design References. Clearinghouse on Educational Facilities. Page 70. 1968.

B. Research reviews

1. Preshod Programs and the Intellectual Development of Disadvantaged Children. Clearinghouse on Early Childhood Education. Page 11. 1968.

2. Review and Synthesis of Research in Business and Office Occupations in Education. Clearinghouse on Vocational and Technical Education. Page 128. 1966.

3. Review and Synthesis of Research in Trade and Industrial Education. Clearinghouse on Vocational and Technical Education. Page 76. 1966.

4. A Summary of Investigations Relating to the English Language Arts Elementary and Secondary, 1966. Clearinghouse on the Teaching of English. Page 56. 1968

5. A Basic Reference Shelf on Learning Theory. Clearinghouse on Educational Media and Technology. Page 17. 1967.

6. English as a Second Language for Mexican Americans. Clearinghouse on Rural Education and Small Schools. Page 20. 1968.

7. Problems and Directions of Research on Public School Desegregation. Clearinghouse on the Disadvantaged. Page 33. 1968.

8. Salvage, Redirection, or Custody? Remedial Education in the Community Junior College. Clearinghouse on Junior Colleges, with the American Association of Junior Colleges. Page 67. 1968.

9. The Moynihan Report and its Critics: Which Side are you on? With a Selected Bibliography on the Negro Family. One of many reviews in the IRCD Bulletin. Clearinghouse on the Disadvantaged. 1966.

10. Research Studies of the Junior College Dropout. One of many reviews in the Junior College Review. Clearinghouse on Junior Colleges. Page 4. 1967.